

# Portable Rapid Test (PRT) Leak Detection System

## *Background*

The Environmental Protection Agency (EPA) issued regulations (40 CFR 280) that require periodic leak testing of underground storage tanks (USTs). A variety of leak testing technologies are commercially available for shop-constructed USTs less than 20K gallons, commonly used at service stations. However, the Department of Defense (DoD) owns thousands of tanks in the 20K – 100K gallon range that required more accurate testing systems, than available with the current technology, to meet EPA and state leak detection standards. Tracer methods, although capable of meeting the standards, are very costly and are not feasible under certain site conditions such as high groundwater, closely spaced USTs, etc.

To provide the DoD with a cost-effective and highly accurate leak detection system for the 20K -100K gallon tanks, the NAVFAC Engineering and Expeditionary Warfare Center developed the Portable Rapid Test (PRT) leak detection system.

## *Technology*

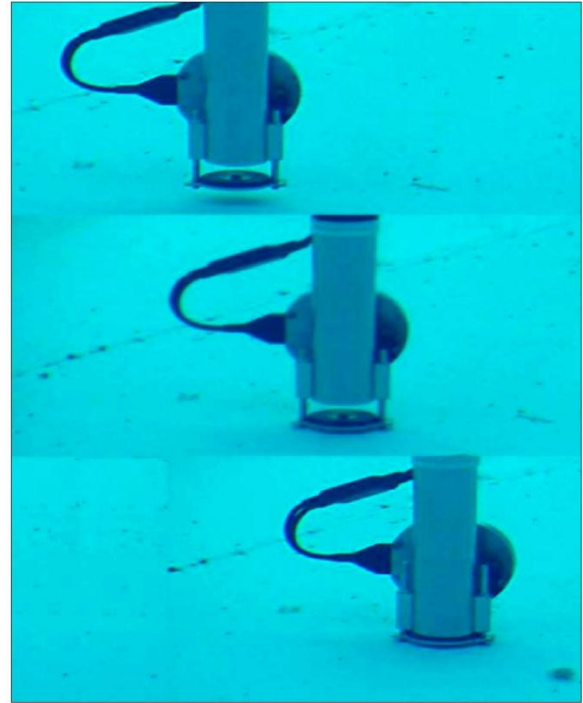
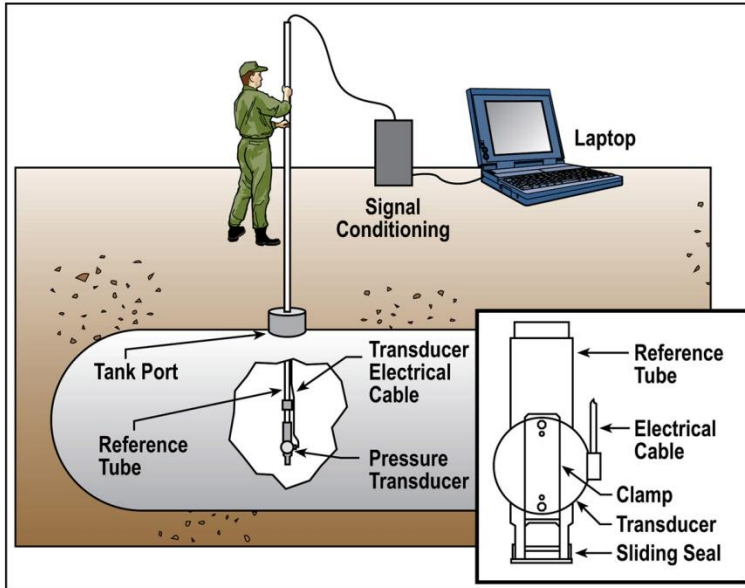
The PRT leak detection system is a patented and licensed technology that is based on the Low Range Differential Pressure (LRDP) leak detection system.

The PRT leak detection system is designed to achieve a high level of performance by compensating for thermal expansion and contraction of the fuel and the tank using an industrial grade differential pressure sensor.

While the cost of installing the LRDP leak detection system is justified for bulk tanks (100K-12M gallons), the PRT leak detection system is a cost-effective solution for the more numerous mid-size tanks. As the name suggests, the portability of the PRT leak detection system allows a single unit to test an entire fuel farm.

The PRT leak detection system consists of an operator installed reference tube/pressure transducer unit, signal-conditioning unit and laptop computer. The vertical reference tube spans the full height of the tank and has a sliding seal valve at the bottom of the tube. This seal allows fuel to enter the tube while being lowered in the tank and then seal the tube as it rests on the tank bottom. The tank sensor can be installed through a standard 6-inch diameter opening.





## Technology Benefits

The PRT leak detection system features the following benefits:

- System portability makes it possible to service multiple tanks
- Quick stabilization provides for short test duration
- Third party certified to measure leak rates less than 0.1 gal/hr in a 50,000 gal UST
- National Work Group for Leak Detection Evaluation (NWGLDE) approval pending
- Patented technology

## Availability

PRT leak detection equipment and services are available from the Navy's licensee:

Vista Leak Detection, Inc.  
1355 Columbia Park Trail  
Richland, WA 99352  
(509) 737-1380

More information on leak detection products and services are available from the Vista Leak Detection, Inc. website.

<http://www.vistaleakdetection.com>

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## Points of Contact

*Technical:*

Bill Major

(805) 982-1808, DSN 551-1808  
william.major@navy.mil

*Integration:*

Mike Viggiano

(805) 982-4895, DSN 551-4895  
mike.viggiano@navy.mil

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